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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,081	10/08/2003	Teruhiko Ueyama	1232-5172	6248

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EXAMINER	
LIU, LIN	
ART UNIT	**PAPER NUMBER**
2621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/681,081	UEYAMA, TERUHIKO	
	Examiner	Art Unit	
	Lin Liu	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/08/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/24/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The information disclosure statement (I.D.S) filed on August 24, 2004 is considered.

Specification Objection

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 8 and 9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims recite a computer program product implementing a method. A program causing a computer to execute a method that is not tangibly embodied on a computer readable medium is non-statutory subject matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims **1, 4, 5 and 7-9** are rejected under 35 U.S.C 102 (a) as being anticipated by **Noriyuki (Japanese Patent Laid-Open No. 2000-69356).**

Consider **claim 1,** An image sensing apparatus comprising: a setting state determination device (drawing 5, control section 20) which determines a setting state (page 6, paragraph 34, noted that the control section carries out centralized control of the camera. page 6, paragraph 38, noted that the state of camera shifts to the next state #2 when the shutter button 9 is pushed) of the image sensing apparatus in image sensing; an exposure calculation device (drawing 5, exposure control value operation part 201) which performs photometry for image sensing to calculate an exposure level (page 6, paragraph 35, noted that 201 computes an exposure control value using the photometry data inputted from the photometry section) upon an image sensing preparation instruction by an image sensing preparation instruction member (drawing 5, shutter carbon button 9, page 6, paragraph 38, noted that when the shutter button is pushed, control section 20 drives the photometry section 3 to carry out the exposure control value operation, which is the exposure calculation); an exposure level calculation device (drawing 5, exposure level operation 202) which calculates an exposure level (page 6, paragraph 36, noted that 202 computes the exposure level of the photographed image.) of an image signal output after image sensing; an exposure correction calculation device (drawing 5, the amendment gain operation 203) which calculates an exposure error value (page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level) from the exposure level calculated by said exposure calculation device (page 6, paragraph 35, noted that the data obtained in 201 is inputted into 203) and the exposure level of a sensed image that is calculated by said exposure level calculation device (page 6, paragraph 36, noted that the

exposure level obtained in 202 is inputted into 203), and calculates a correction amount of the exposure error value (page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level by comparing the data obtained from 201 and 202) on the basis of at least one of the setting state of the image sensing apparatus that is obtained by said setting state determination device, an operation state of the image sensing apparatus, and an object brightness state (drawing 6, photographic subject brightness #3, page 6, paragraph 39, noted that the brightness value is computed in this state) in image sensing; and an exposure error correction device (drawing 5, level amendment section 19) which corrects an exposure error (page 6, paragraph 33 and page 8, paragraph 54, noted that the 19 amplifies the level of each pixel data by gain alpha and performs level amendment of the image data) of the sensed image by using the correction amount calculated by said exposure correction calculation device (page 6, paragraph 33, noted that 19 performs level amendment based on the amendment gain 203 inputted from a control section 20).

Consider **claim 4,** Noriyuki teaches the apparatus according to claim 1, wherein the operation state (drawing 6 and page 6, paragraph 37, the flow chart of photography actuation of the digital camera) of the image sensing apparatus includes a state in which an image sensing processing start instruction is received from an image sensing start instruction member (drawing 5, shutter carbon button 9) before an end (drawing 6, the operation state from #1 to #2 and page 6, paragraph 38, the shutter button is pushed at #1 before the completion of operation state #2) of exposure calculation processing (drawing 6, photometry data #2, page 6 paragraph 38, photometry data is

used to carry out the exposure control value operation 201) by said exposure calculation device (201) that starts upon reception of an image sensing processing preparation start instruction (drawing 6, the operation state from #1 to #2 and page 6, paragraph 38, the shutter button is pushed at #1 to start the instruction and to change the operation state to #2) by the image sensing preparation instruction member (drawing 5, shutter carbon button 9), and when the image sensing processing start instruction is received before the end (drawing 6, the operation state from #1 to #2 and page 6, paragraph 38, the shutter button is pushed at #1 before the completion of operation state #2) of exposure calculation processing (drawing 6, photometry data #2, page 6 paragraph 38, photometry data is driven by control section 20 to carry out the exposure control value operation 201) by said exposure calculation device (201), an image is sensed at an exposure value (drawing 6, photometry data #2, photometry data is computed at this state) obtained during exposure calculation processing, said exposure correction calculation device (drawing 5, the amendment gain operation 203) calculates the correction amount of the exposure error value (page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level by comparing the data obtained from 201 and 202) by using information in exposure calculation (201) so as to obtain a sensed image at correct exposure, and said exposure error correction device (drawing 5, level amendment section 19) corrects the exposure error of the sensed image by using the correction amount (page 6, paragraph 33 and page 8, paragraph 54, noted that the 19 amplifies the level of each pixel data by gain alpha and performs level amendment of the image data).

Consider **claim 5,** Noriyuki teaches the apparatus according to claim 4, wherein when the image sensing processing start instruction is received (page 6, paragraph 38, the shutter button is pushed at #1 to start the photography actuation of the camera) before the end (drawing 6, the operation state from #1 to #2 and page 6, paragraph 38, the shutter button is pushed #1 before the completion of operation state #2) of exposure calculation processing (drawing 6, photometry data #2, page 6 paragraph 38, photometry data is used to carry out the exposure control value operation 201) by said exposure calculation device (201), and the setting state of the image sensing apparatus includes at least one of a state (drawing 6, operation state #8) in which an exposure correction value is set (page 8, paragraph 54, noted that control section 20 sets the gain alpha as the level amendment section 19), a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is set to spot photometry, a state in which a manual exposure mode is set, and a state in which a long shutter mode is set, exposure starts (drawing 6, #5 and page 7 paragraph 41, noted that the charge storage/exposure of CCD10 starts) after a correct exposure value is calculated (page 8, paragraph 54, noted that control section 20 sets the gain alpha as the level amendment section 19) at the end of calculation processing by said exposure calculation device (201).

Consider **claim 7,** Noriyuki teaches an image sensing method comprising: a processing step of determining a setting state (drawing 5, control section 20) of an image sensing apparatus in image sensing; a processing step of performing photometry for image sensing to calculate an exposure level (page 6, paragraph 35,

noted that 201 computes an exposure control value using the photometry data inputted from the photometry section) upon an image sensing preparation instruction by an image sensing preparation instruction member (drawing 5, shutter carbon button 9, page 6, paragraph 38, noted that when the shutter button is pushed, control section 20 drives the photometry section 3 to carry out the exposure control value operation, which is the exposure calculation); a processing step of calculating an exposure level (drawing 5, exposure level operation 202, carries out the exposure calculation process) of an image signal output after image sensing (page 6, paragraph 36, noted that 202 computes the exposure level of the photographed image); and a processing step of calculating an exposure error value (drawing 5, the amendment gain operation 203, and page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level) from the exposure level obtained by the photometry (page 6, paragraph 35, noted that the data obtained in 201 is inputted into 203) and the exposure level (page 6, paragraph 36, noted that the exposure level obtained in 202 is inputted into 203) of the image signal, wherein a correction amount of the exposure error value (page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level by comparing the data obtained from 201 and 202) is calculated on the basis of at least one of the setting state of the image sensing apparatus, an operation state of the image sensing apparatus, and an object brightness state (drawing 6, photographic subject brightness #3, page 6, paragraph 39, noted that the brightness value is computed in this state) in image sensing, and an exposure error of the sensed image is corrected using the correction amount.

Consider **claim 8,** Noriyuki teaches a program characterized by causing a computer to execute a processing procedure having a processing step of determining a setting state (drawing 5, control section 20) of an image sensing apparatus in image sensing, a processing step of performing photometry for image sensing to calculate an exposure level (page 6, paragraph 35, noted that 201 computes an exposure control value using the photometry data inputted from the photometry section) upon an image sensing preparation instruction by an image sensing preparation instruction member (drawing 5, shutter carbon button 9, page 6, paragraph 38, noted that when the shutter button is pushed, control section 20 drives the photometry section 3 to carry out the exposure control value operation, which is the exposure calculation), a processing step of calculating an exposure level (drawing 5, exposure level operation 202, carries out the exposure calculation process) of an image signal output after image sensing (page 6, paragraph 36, noted that 202 computes the exposure level of the photographed image), and a processing step of calculating an exposure error value (drawing 5, the amendment gain operation 203, and page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level) from the exposure level obtained by the photometry (page 6, paragraph 35, noted that the data obtained in 201 is inputted into 203) and the exposure level (page 6, paragraph 36, noted that the exposure level obtained in 202 is inputted into 203) of the image signal, wherein a correction amount of the exposure error value (page 6, paragraph 36, noted that 203 calculates the gain alpha for amending the exposure level by comparing the data obtained from 201 and 202) is calculated on the basis of at least one of the setting state of the image sensing

apparatus, an operation state of the image sensing apparatus, and an object brightness state (drawing 6, photographic subject brightness #3, page 6, paragraph 39, noted that the brightness value is computed in this state) in image sensing, and an exposure error of the sensed image is corrected using the correction amount.

Consider **claim 9,** Noriyuki teaches a computer-readable recording medium (drawing 5, image memory 18) characterized by recording a program (page 6, paragraph 34, noted that the control section 20 carries out the centralized control of the photography actuation of the camera and it consists of a microcomputer which executes the processes of the exposure calculation. Thus it is an inherent feature that these programs are stored in a computer-readable recording medium to be executed by the microcomputer) defined in claim 8.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.

3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims **2 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Noriyuki (Japanese Patent Laid-Open No. 2000-69356)** in view of **Kubo (Patent no.: 7,030,911 B1).**

With respect to **claim 2**, Noriyuki teaches all claimed limitation with the exception that he does not explicitly teach the apparatus according to claim 1, wherein the setting state of the image sensing apparatus includes at least one of a state in which an exposure correction value is set, a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is set to spot photometry, a state in which a manual exposure mode is set, and a state in which a long shutter mode is set, and when any one of the states is set, said exposure correction calculation device does not calculate the correction amount of the exposure error value , and said exposure error correction device does not correct the exposure error of the sensed image.

In an analogous art, Kubo teaches a digital camera exposure control method comprises of a setting state (fig. 6 and col. 7 lines 15-20, noted that the flow chart depicts the operation state of the digital camera) of the image sensing apparatus includes at least one of a state in which an exposure correction value is set, a state in which an exposure condition obtained by photometry is held, a state in which a photometry method is set to spot photometry, a state in which a manual exposure mode is set, and a state in which a long shutter mode (col. 7 lines 48-56, noted that

when S2 switch is not pressed and S1 switch continues being on for not less than the predetermine time, it is determined that the exposure time is long) is set, and when any one of the states is set, said exposure correction calculation device does not calculate the correction amount of the exposure error value (col. 7, lines 48-56, since that when the operation state is returned back to #5, the exposure control value #27 will not be carried out in use), and said exposure error correction device does not correct the exposure error (col. 7, lines 48-56, since that when the operation state is returned back to #5, the exposure control value #27 will not be carried out in use, thus there will be no correction amount be used to correct the exposure error) of the sensed image.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the device of Noriyuki by incorporating the method of setting the long exposure mode as taught by Kubo in order to have the advantage of power saving feature in preventing the execution of rest of the operation states.

With respect to **claim 6**, Noriyuki teaches all the claimed limitation with the exception that he does not explicitly teach the apparatus according to claim 1, wherein, in an operation state in which an image sensing start instruction member is not pressed is held for not less than a given threshold time after the image sensing preparation instruction member is pressed, said exposure correction calculation device does not calculate the correction amount of the exposure error value, and said exposure error correction device does not correct the exposure error of the sensed image.

In an analogous art, Kubo teaches a digital camera exposure control method comprises of an operation state (fig. 6 and col. 7 lines 15-20, noted that the flow chart

depicts the operation state of the digital camera) in which an image sensing start instruction member (fig. 6, S2 switch #23) is not pressed is held for not less than a given threshold time (col. 7 lines 48-56, noted that when S2 switch is not pressed and S1 switch continues being on for not less than the predetermine time, it is determined that the user has no intention to perform shooting and the processing state will return back to state #5) after the image sensing preparation instruction member is pressed (fig. 6, S1 switch #17, col. 7 lines 49-51, S1 switch is on), said exposure correction calculation device does not calculate the correction amount of the exposure error value (col. 7, lines 48-56, since that when the operation state is returned back to #5, the exposure control value #27 will not be carried out in use), and said exposure error correction device does not correct the exposure error (col. 7, lines 48-56, since that when the operation state is returned back to #5, the exposure control value #27 will not be carried out in use, thus there will be no correction amount be used to correct the exposure error) of the sensed image.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the device of Noriyuki by incorporating the method of setting the threshold time for the shutter switch button in controlling the operation state as taught by Kubo in order to have the advantage of power saving feature in preventing the execution of rest of the operation states.

10. Claim **3** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Noriyuki (Japanese Patent Laid-Open No. 2000-69356)** in view of **Numata (Patent no.: 6,654,062 B1)**.

With respect to **claim 3,** Noriyuki teaches all the claimed limitation with the exception that he does not explicitly teach the apparatus according to claim 1, wherein the setting state of the image sensing apparatus includes a state in which a flash is so set as to emit light, and when the flash is so set as to emit light, a correction width of the correction amount of the exposure error value is changed in consideration of at least one of a flashlight amount, a distance to an object, a stop state, and a setting sensitivity.

In the same field of endeavor, Numata teaches an electronic camera comprises a flash unit. Wherein, he discloses a state (col. 5, line 43, flash exposure mode) in which a flash is so set as to emit light (col. 6, lines 50-55, noted that flash exposure is performed), and when the flash is so set as to emit light, a correction width of the correction amount of the exposure error value is changed (col. 6, lines 55-60, noted that the aperture, shutter speed and gain amplifier are changed according to the value of optimum flash exposure) in consideration of at least one of a flashlight amount (col. 6, lines 50-55, noted that the optimum flash exposure is computed), a distance to an object, a stop state, and a setting sensitivity.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the state of performing flash exposure as taught by Numata in Noriyuki's device in order to adjust the aperture of iris, shutter speed and

gain values corresponding to the change of the flash amount (col. 6, lines 50-60, noted that these parameters change based on the value of optimum flash exposure).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takahashi discloses an image pickup device capable of exposure control utilizing the iris aperture, shutter speed and gain as three control parameters in publication no.: US 2002/0080247. Pyle discloses a use-controlled exposure method and system with visual feedback in patent no.: US 7,136,101. Sakimoto discloses photographing apparatus which conducts displaying-at-long-time-exposure in publication no.: US 2004/0150738. Matsumoto discloses an image sensing apparatus with electronic shutter and mechanical shutter functions in publication no.: US 2005/0225664.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Liu whose telephone number is (571) 270-1447. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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12/20/06

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